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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/992,600	11/13/2001	Stephane Bejanin	91.US4.DIV	9889

23557 7590 06/06/2005

SALIWANCHIK LLOYD & SALIWANCHIK
A PROFESSIONAL ASSOCIATION
PO BOX 142950
GAINESVILLE, FL 32614-2950

EXAMINER	
MYERS, CARLA J	
ART UNIT	**PAPER NUMBER**
1634	

DATE MAILED: 06/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/992,600	BEJANIN ET AL.	
	Examiner	Art Unit	
	Carla Myers	1634	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 March 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *55-93* is/are pending in the application.

4a) Of the above claim(s) *77-93* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *55,61-66 and 72-76* is/are rejected.

7)☒ Claim(s) *56-60 and 67-71* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☒ Other: *See Continuation Sheet*.

S.O.O.

DETAILED ACTION

1. This action is in response to the amendment filed March 1, 2005. Applicant's arguments have been fully considered but are not persuasive to overcome all grounds of rejection. All rejections not reiterated herein are hereby withdrawn. This action contains new grounds of rejection necessitated by Applicant's amendments to the claims and is made final.

Election/Restrictions

2. In the response filed July 14, 2000, Applicant's elected the polypeptides of Group III without traverse. In the response of March 1, 2005, Applicants state that newly added claims 77-93 drawn to methods should be rejoined with the elected invention once the product claims are found to be allowable. However, for the reasons set forth below, the product claims are not allowable. Accordingly, claims 77-93 are withdrawn from consideration as being drawn to a non-elected invention.

Specification

3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

In the response of March 1, 2005, Applicants state that the title has been amended to read "Serine Carboxypeptidase hx (SCPhx) and Compositions Thereof." However, the response does not include a request to amend the title.

The following are modified and new grounds of rejection necessitated by the amendments to the claims:

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 55, 61-66, and 72-76 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for polypeptides consisting of amino acids -26 to 267 of SEQ ID NO: 4, polypeptides consisting of amino acids 1 to 267 of SEQ ID NO: 4 and polypeptides encoded by a polynucleotide consisting of the open reading frame of the cDNA of deposited clone having the ATCC Accession No. PTA-2732, wherein said polypeptides have serine carboxypeptidase activity, does not reasonably provide enablement for polypeptides comprising an amino acid sequence having 90-99% identity with SEQ ID NO: 4 or portions thereof, or having 90-99% identity over any portion of SEQ ID NO: 4. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims.

The following factors have been considered in formulating this rejection (*In re Wands,* 858F.2d 731, 8 USPQ2d 1400 (Fed. Cir. 1988): the breadth of the claims, the nature of the invention, the state of the prior art, the relative skill of those in the art, the predictability or unpredictability of the art, the amount of direction or guidance

presented, the presence or absence of working examples of the invention and the quantity of experimentation necessary.

Breadth of the Claims:

The claims are drawn to SCPhx polypeptides "comprising an amino acid sequence at least 90, 95, 96, 97, 98, or 99% identical" to a polypeptide comprising amino acids 1 to 267 or –26 to 267 of SEQ ID NO: 4 or polypeptides encoded by an open reading frame of the cDNA of deposited clone having the ATCC Accession No. PTA-2732. Accordingly, the claims are inclusive of polypeptides which comprise a portion of the polypeptide of amino acids 1 to 267 or –26 to 267 of SEQ ID NO: 4, and polypeptides which comprise an amino acid sequences which shares 90-99% identity with amino acids 1 to 267 or –26 to 267 of SEQ ID NO: 4 over the full length or a portion of amino acids 1 to 267 or –26 to 267 of SEQ ID NO: 4.

Nature of the Invention

The claims encompass SCPhx polypeptides. The invention is in a class of inventions which the CAFC has characterized as "the unpredictable arts such as chemistry and biology" (Mycolgen Plant Sci., Inc. v. Monsanto Co., 243 F.3d 1316, 1330 (Federal Circuit 2001)).

Teachings in the Specification and State of the Art:

The specification (page 129) states that the SCPhx polypeptide of SEQ ID NO: 4 encodes for "a novel serine carboxypeptidase." It is stated that "SCPhx cleaves the peptide bond between the penultimate and C-terminal amino acids residues of its protein or peptide substrate" (see page 129). The specification also teaches that amino

acids –26 to –1 of SEQ ID NO: 4 constitute a signal sequence. Accordingly, the specification has enabled polypeptides consisting of amino acids -26 to 267 of SEQ ID NO: 4 and consisting of amino acids 1 to 267 of SEQ ID NO: 4, wherein said polypeptides have serine carboxypeptidase activity.

The Predictability or Unpredictability of the Art and Degree of Experimentation:

The art of making and using homologues, allelic variants and mutants of proteins is highly unpredictable. Knowledge of the sequence of the wildtype protein does not allow one to immediately envision specific homologues, allelic variants or mutants of that protein having a specified biological activity. Without extensive information regarding the relationship between the structure and function of a protein, it is highly unpredictable as to how modifications in the amino acid sequence of a protein will effect the protein's biological activity and binding activity.

The prior art teaches that the activity and function of proteins are extremely sensitive to the specific sequence of the protein. Changes in a single amino acid may significantly alter the function of a protein, as is the case with sickle cell anemia in which a single amino acid change at position 6 of the beta globin protein alters the function of hemoglobin and causes the sickling of red blood cells seen in sickle cell anemia. The sensitivity of proteins to changes in their amino acid sequence is supported by the disclosure of Ngo et al (*The Protein Folding Problem and Tertiary Structure Prediction*, 1994, Mertz et al (ed). Birkhauser, Boston, MA, pages 433 and 492-495) wherein the authors teach that the relationship between the sequence of a protein and its tertiary structure is not well understood and not predictable. Further, Skolnick (Trends in

Biotechnology. 2000. 18(1): 34-39; see abstract and page 34) teaches that assigning functional activities for any particular protein or protein family based upon sequence homology is not predictable. In particular, Skolnick (see abstract) states that "Sequence-based methods for function prediction are inadequate because of the multifunctional nature of proteins. However, just knowing the structure of the protein is also insufficient for prediction of multiple functional sites."

Since the amino acid sequence of a protein determines its tertiary structure and functional properties, predictability of which variants having only 90% identity with amino acids 1 to 267 or –26 to 267 of SEQ ID NO: 4 will retain functional activity requires a knowledge of and specific guidance as to which amino acids in the protein contribute to its function and to its tertiary structure. The problem of determining which variants will retain biological activity and which will not is complex and well outside the realm of routine experimentation.

Amount of Direction or Guidance Provided by the Specification:

The specification does not provide any specific guidance as to how to predictably make and use additional homologues, allelic variants or mutants of the specific human protein of SEQ ID NO: 4. The specification does not provide specific guidance as to which regions of the protein of SEQ ID NO: 4 can be modified without altering the ability of this protein to cleave peptide bonds. There are no teachings in the specification as to which residues in the protein are critical for functional activity, so that one could, in a predictable manner, begin to identify possible variants having SCPhx activity. Thus, one of skill in the art would be left to randomly alter amino acids in the protein to

generate a significantly large genus of proteins, and then assay these proteins to determine which proteins have SCPhx activity. While methods for mutagenizing proteins are known in the art, such methods provide only the general guidelines that allow researchers to randomly generate proteins and search for proteins having a stated activity. Providing methods for randomly synthesizing proteins and determining which proteins are functional is not equivalent to teaching how to make and use specific SCPhx proteins. Such teachings provide only an invitation to experiment.

Working Examples:

Again, the specification teaches a single SCPhx protein. The specification does not provide any additional examples of homologues, allelic variants or naturally or non-naturally occurring mutants of the SCPhx protein having 90-99% identity with amino acids 1 to 267 or –26 to 267 of SEQ ID NO: 4.

Conclusions:

Case law has established that "(t)o be enabling, the specification of a patent must teach those skilled in the art how to make and use the full scope of the claimed invention without 'undue experimentation.'" *In re Wright* 990 F.2d 1557, 1561. *In re Fisher,* 427 F.2d 833, 839, 166 USPQ 18, 24 (CCPA 1970) it was determined that "(t)he scope of the claims must bear a reasonable correlation to the scope of enablement provided by the specification to persons of ordinary skill in the art". The amount of guidance needed to enable the invention is related to the amount of knowledge in the art as well as the predictability in the art. Furthermore, the Court in *Genetech Inc. v Novo Nordisk* 42 USPQ2d 1001 held that "(I)t is the specification, not the knowledge of

one skilled in the art that must supply the novel aspects of the invention in order to constitute adequate enablement". In the instant case, the claims do not bear a reasonable correlation to the scope of enablement because the specification teaches only one fragment of SEQ ID NO: 4 (i.e., amino acids 1 to 267) which has serine carboxypeptidase activity. The specification does not teach any additional fragments of SEQ ID NO: 4 having serine carboxypeptidase activity and does not teach any variants of SEQ ID NO: 4 having 90-99% identity with amino acids 1 to 267 or –26 to 267 of SEQ ID NO: 4. As set forth above, in view of the unpredictability in the art, extensive experimentation would be required to identify additional homologues, allelic variants and mutants having SCPhx activity. Accordingly, although the level of skill in the art of molecular biology is high, given the lack of disclosure in the specification and in the prior art and the unpredictability of the art, it would require undue experimentation for one of skill in the art to make and use the invention as broadly claimed.

Response to Arguments:

In the response filed March 1, 2005, Applicants state that the previous grounds of rejection under 35 U.S.C. 112, first paragraph are moot in view of the cancellation of the claims. However, the above rejection is now applied to newly added claims 55, 61-66, 72-76, as the claims now encompass proteins comprising a fragment that shares 90-99% identity with amino acids 1 to 267 or –26 to 267 of SEQ ID NO: 4, and proteins which comprise a sequence which shares 90-99% identity with amino acids 1 to 267 or –26 to 267 of SEQ ID NO: 4 over the full length or portions of amino acids 1 to 267 or –26 to 267 of SEQ ID NO: 4.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 31, 34, 35, 37 and 40 are rejected under 35 U.S.C. 102(b) as being anticipated by Fong (WO 99/14234).

Fong (see Figure 9 and sequence alignment printout) teaches a polypeptide consisting of 452 amino acids wherein the polypeptide shares 100% identity with amino acids 1 to 262 of present SEQ ID NO: 4 (using the numbering of 1 to 293 of SEQ ID NO: 4). The polypeptide of Fong shares 90% identity over the full length sequence of amino acids 1 to 293 of SEQ ID NO: 4. Accordingly, Fong teaches a polypeptide "comprising an amino acid sequence" of at least 90% identity with amino acids "–26 to 267 of SEQ ID NO: 4." Fong teaches that the polypeptide is a vitellogenic carboxypeptidase homoloque, and thereby the polypeptide is considered to have serine carboxypeptidase activity. Further, Fong (see, e.g., pages 50, 55 and 56) teaches compositions comprising the polypeptide and a pharmaceutically acceptable carrier and the use of the composition to inoculate animals for the purposes of generating antibodies.

6. Claims 56-60 and 67-71 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. The art made of record and not relied upon is considered pertinent to applicant's disclosure.

Tang (WO 01/53455, published 7/26/2001) teaches a polypeptide (referred to therein as SEQ ID NO: 910; see page 198 of reference and sequence alignment) which shares 99% identity with SEQ ID NO: 4. It is noted that the present invention is entitled to the filing date of July 13, 2001 (provisional application 60/305,406).

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carla Myers whose telephone number is (571) 272-0747. The examiner can normally be reached on Monday-Thursday from 6:30 AM-5:00 PM. A message may be left on the examiner's voice mail service. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Jones, can be reached on (571)-272-0745.

The fax phone number for the organization where this application or proceeding is assigned is (571)-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at (866)-217-9197 (toll-free).

Carla Myers
May 17, 2005

CARLA J. MYERS
PRIMARY EXAMINER

Continuation of Attachment(s) 6). Other: copy of file directory listing for CD ROMs; FASTDB sequence listing comparison of SEQ ID NO: 4 and AAM25395 (Tang et al); and sequence alignment of SEQ ID NO: 4 and AAY05768 (Fong et al)

```
 Volume in drive D:\ is □LàDD
 Directory of D:\

.                                                    <DIR>
..                                                   <DIR>

G-091US04DIV-Subst-Seq-List.doc                      1112 KB       2/11/05 3:46:28 PM

    1 file(s)
    Total filesize 1112 KB
    2 folder(s)
    0 kilobytes free
```

SQ Sequence 293 AA;

Query Match 100.0%; Score 1572; DB 6; Length 293;
Best Local Similarity 100.0%; Pred. No. 5.2e-156;
Matches 293; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```
Qy          1 MELALRRSPVPRWLLLLPLLLGLNAGAVIDWPTEEGKEVWDYVTVRKDAYMFWWLYYATN 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 MELALRRSPVPRWLLLLPLLLGLNAGAVIDWPTEEGKEVWDYVTVRKDAYMFWWLYYATN 60

Qy         61 SCKNFSELPLVMWLQGGPGGSSTGFGNFEEIGPLDSDLKPRKTTWLQAASLLFVDNPVGT 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 SCKNFSELPLVMWLQGGPGGSSTGFGNFEEIGPLDSDLKPRKTTWLQAASLLFVDNPVGT 120

Qy        121 GFSYVNGSGAYAKDLAMVASDMMVLLKTFFSCHKEFQTVPFYIFSESYGGKMAAGIGLEL 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 GFSYVNGSGAYAKDLAMVASDMMVLLKTFFSCHKEFQTVPFYIFSESYGGKMAAGIGLEL 180

Qy        181 YKAIQRGTIKCNFAGVALGDSWISPVDSVLSWGPYLYSMSLLEDKGLAEVSKVAEQVLNA 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 YKAIQRGTIKCNFAGVALGDSWISPVDSVLSWGPYLYSMSLLEDKGLAEVSKVAEQVLNA 240

Qy        241 VNKGLYREATELWGKAEMIIEQVKRGNTQRLACLAFSGGYRAHGWCCQTWSLH 293
              |||||||||||||||||||||||||||||||||||||||||||||||||||
Db        241 VNKGLYREATELWGKAEMIIEQVKRGNTQRLACLAFSGGYRAHGWCCQTWSLH 293
```

RESULT 2
AAM25395
ID AAM25395 standard; protein; 298 AA.
XX
AC AAM25395;
XX
DT 16-OCT-2001 (first entry)
XX
DE Human protein sequence SEQ ID NO:910.
XX
KW Human; cancer; ulcer; HIV infection; human immunodeficiency virus;
KW antiinflammatory; antirheumatic; antiarthritic; immunosuppressive;
KW antibacterial; endocrine; cardiant; central nervous system; virucide;
KW anti-HIV; fungicide; antimutagen; cardiovascular; antianaemic; anaemia;
KW antiaggregant; haemostatic; vulnerary; antiulcer; osteopathic; eczema;
KW dermatological; antiallergic; antiasthmatic; antidiabetic; cytostatic;
KW neuroprotective; antidepressant; nootropic; antiparkinsonian; infection;
KW immunostimulant; gene therapy; antisense therapy; vaccine; inflammation;
KW antianaphylactic; rheumatoid arthritis; septic shock; pancreatitis;
KW cardiac dysfunction; neuropathology; cardiac anaphylaxis; autoimmunity;
KW genetic disease; haematopoietic disorder; platelet disorder; asthma;
KW thrombocytopaenia; osteoporosis; severe combined immunodeficiency;
KW allergic rhinitis; diabetes; multiple sclerosis; depression;
KW Alzheimer's disease; Parkinson's disease; neurodegenerative disorder;
KW neurological disorder.
XX
OS Homo sapiens.
XX
PN WO200153455-A2.
XX
PD 26-JUL-2001.
XX
PF 22-DEC-2000; 2000WO-US035017.
XX
PR 23-DEC-1999; 99US-00471275.
PR 21-JAN-2000; 2000US-00488725.
PR 25-APR-2000; 2000US-00552317.
XX
PA (HYSE-) HYSEQ INC.
XX
PI Tang YT, Liu C, Drmanac RT;
XX
DR WPI; 2001-457603/49.
DR N-PSDB; AAH99336.
XX
PT Isolated human polynucleotides encoding polypeptides, useful for the
PT treatment and diagnosis of e.g. cancer, ulcers and HIV infection.
XX
PS Claim 20; Page 198; 1217pp; English.
XX
CC AAH99166 to AAH99904 encode the human proteins given in AAM25225 to
CC AAM25963. The proteins can have activities based on the tissues and cells
CC they are expressed in, such as: antiinflammatory; antirheumatic;
CC antiarthritic; immunosuppressive; antibacterial; endocrine; cardiant;
CC central nervous system; virucide; anti-HIV; fungicide; antimutagen;
CC cardiovascular; antianaemic; antiaggregant; haemostatic; vulnerary;
CC antiulcer; osteopathic; dermatological; antiallergic; antiasthmatic;
CC antidiabetic; cytostatic; neuroprotective; antidepressant; nootropic;
CC antiparkinsonian; and immunostimulant. The proteins and polynucleotides
CC encoding them can be used in gene therapy, antisense therapy and vaccine
CC production, The proteins and polynucleotides are useful for screening for
CC agonists or antagonists of a protein and for the treatment and diagnosis
CC of disorders associated with the activity of a protein e.g. inflammation,
CC rheumatoid arthritis, septic shock, pancreatitis, cardiac dysfunction,
CC neuropathology, cardiac anaphylaxis, viral, bacterial, HIV and fungal
CC infections, autoimmunity, genetic diseases, haematopoietic disorders,
CC anaemia, platelet disorders, thrombocytopaenia, wounds, burns, ulcers,
CC osteoporosis, severe combined immunodeficiency, eczema, allergic
CC rhinitis, asthma, diabetes, cancer, multiple sclerosis, depression,
CC Alzheimer's disease, Parkinson's disease, neurodegenerative and
CC neurological disorders
XX
SQ Sequence 298 AA;

Query Match 99.2%; Score 1559; DB 4; Length 298;
Best Local Similarity 99.3%; Pred. No. 1.2e-154;
Matches 291; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

```
Qy          1 MELALRRSPVPRWLLLLPLLLGLNAGAVIDWPTEEGKEVWDYVTVRKDAYMFWWLYYATN 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          6 MELALRRSPVPRWLLLLPLLLGLNAGAVIDWPTEEGKEVWDYVTVRKDAYMFWWLYYATN 65

Qy         61 SCKNFSELPLVMWLQGGPGGSSTGFGNFEEIGPLDSDLKPRKTTWLQAASLLFVDNPVGT 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         66 SCKNFSELPLVMWLQGGPGGSSTGFGNFEEIGPLDSDLKPRKTTWLQAASLLFVDNPVGT 125

Qy        121 GFSYVNGSGAYAKDLAMVASDMMVLLKTFFSCHKEFQTVPFYIFSESYGGKMAAGIGLEL 180
              |||||||||||||||||||| ||||||||||||||||||||||||||||||||||||||
Db        126 GFSYVNGSGAYAKDLAMVASDMMGLLKTFFSCHKEFQTVPFYIFSESYGGKMAAGIGLEL 185

Qy        181 YKAIQRGTIKCNFAGVALGDSWISPVDSVLSWGPYLYSMSLLEDKGLAEVSKVAEQVLNA 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        186 YKAIQRGTIKCNFAGVALGDSWISPVDSVLSWGPYLYSMSLLEDKGLAEVSKVAEQVLNA 245

Qy        241 VNKGLYREATELWGKAEMIIEQVKRGNTQRLACLAFSGGYRAHGWCCQTWSLH 293
              |||||||||||||||||||||||||||||| ||||||||||||||||||||
Db        246 VNKGLYREATELWGKAEMIIEQVKRGNTQRRACLAFSGGYRAHGWCCQTWSLH 298
```

RESULT 3
AAY05768
ID AAY05768 standard; protein; 452 AA.
XX
AC AAY05768;
XX
DT 19-JUL-1999 (first entry)
XX
DE Human PRO216 (vitellogenic carboxypeptidase homologue).
XX
KW PRO302; vitellogenic carboxypeptidase; human; angiogenesis;
KW cardiovascularisation; wound healing; cancer; atherosclerosis;
KW cardiac hypertrophy; myocardial infarction; antiangiogenic; antitumour;
KW tissue regeneration; pulmonary fibrosis; neurological disease;
KW macular degeneration; diagnosis; therapy.
XX
OS Homo sapiens.
XX
FH Key Location/Qualifiers
FT Peptide 1. .25

GenCore version 5.1.6

OM protein - protein search, using sw model

Run on: May 19, 2005, 16:21:16 ; Search time 0.001 Seconds
(without alignments)
132.436 Million cell updates/sec

Title: us-09-992-600b-4
Perfect score: 1572
Sequence: 1 MELALRRSPVPRWLLLLPLL.....LAFSGGYRAHGWCCQTWSLH 293

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 1 seqs, 452 residues

Total number of hits satisfying chosen parameters: 1

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : aay05768.geneseqp1990s:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	1388	88.3	452	1	AAY05768	Human PRO216 (vite

ALIGNMENTS

RESULT 1
AAY05768
ID AAY05768 standard; protein; 452 AA.
XX
AC AAY05768;
XX
DT 19-JUL-1999 (first entry)
XX
DE Human PRO216 (vitellogenic carboxypeptidase homologue).
XX
KW PRO302; vitellogenic carboxypeptidase; human; angiogenesis;
KW cardiovascularisation; wound healing; cancer; atherosclerosis;
KW cardiac hypertrophy; myocardial infarction; antiangiogenic; antitumour;
KW tissue regeneration; pulmonary fibrosis; neurological disease;
KW macular degeneration; diagnosis; therapy.
XX
OS Homo sapiens.
XX
FH Key Location/Qualifiers
FT Peptide 1. .25
FT /note= "signal peptide"
FT Protein 26. .452
FT /note= "mature protein"
FT Modified-site 64
FT /note= "N-glycosylated"
FT Modified-site 126
FT /note= "N-glycosylated"
FT Modified-site 362
FT /note= "N-glycosylated"
XX
PN WO9914234-A2.
XX
PD 25-MAR-1999.
XX
PF 14-SEP-1998; 98WO-US019177.
XX
PR 17-SEP-1997; 97US-0059117P.
PR 27-OCT-1997; 97US-0063329P.
PR 24-NOV-1997; 97US-0066772P.
XX
PA (GETH) GENENTECH INC.
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PI Fong S, Gerritsen ME, Goddard A, Gurney AL, Hillan K;
PI Williams PM, Wood WI;
XX
DR WPI; 1999-254381/21.
DR N-PSDB; AAX25445.
XX
PT Composition containing human polypeptides with anti-angiogenic activity.
XX
PS Example 1; Fig 9; 102pp; English.
XX
CC The present sequence represents human PRO302, identified as a
CC vitellogenic carboxypeptidase homologue. The sequence was deduced from
CC cDNA clone UNQ265 (DNA40370-1217, ATCC 209485, see AAX25445).
CC Compositions containing PRO302, PRO216 (human osteomodulin, see AAY05767)
CC or PRO230 in admixture with a carrier are claimed. The compositions are
CC used to treat or prevent a wide range of cardiovascular, endothelial and
CC angiogenic disorders (claimed), specifically cardiac hypertrophy
CC (especially where associated with elevated levels of prostaglandin F2
CC alpha or induced by myocardial infarction), trauma (wounds, burns, or
CC tissue regeneration more generally, including neurological disease), and
CC cancer. Antagonists may be used similarly, also to treat age-related
CC macular degeneration (or other angiogenic retinal disorders) and to
CC prevent excessive growth of connective tissue during wound healing or in
CC pulmonary fibrosis
XX
SQ Sequence 452 AA;

Query Match 88.3%; Score 1388; DB 1; Length 452;
Best Local Similarity 100.0%; Pred. No. 0;
Matches 262; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Qy          1 MELALRRSPVPRWLLLLPLLLGLNAGAVIDWPTEEGKEVWDYVTVRKDAYMFWWLYYATN 60
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Db          1 MELALRRSPVPRWLLLLPLLLGLNAGAVIDWPTEEGKEVWDYVTVRKDAYMFWWLYYATN 60

Qy         61 SCKNFSELPLVMWLQGGPGGSSTGFGNFEEIGPLDSDLKPRKTTWLQAASLLFVDNPVGT 120
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Db         61 SCKNFSELPLVMWLQGGPGGSSTGFGNFEEIGPLDSDLKPRKTTWLQAASLLFVDNPVGT 120

Qy        121 GFSYVNGSGAYAKDLAMVASDMMVLLKTFFSCHKEFQTVPFYIFSESYGGKMAAGIGLEL 180
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Qy        181 YKAIQRGTIKCNFAGVALGDSWISPVDSVLSWGPYLYSMSLLEDKGLAEVSKVAEQVLNA 240
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Qy        241 VNKGLYREATELWGKAEMIIEQ 262
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Db        241 VNKGLYREATELWGKAEMIIEQ 262
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Search completed: May 19, 2005, 16:21:16
Job time : 0.001 secs